

REMARKS

Applicants thank the Examiner for the very thorough consideration given the present application.

Claim 1-15 and 23-26 are now present in this application. Claims 1, 8, 10, 12 and 23 are independent. By this Amendment, claims 1, 8, 10, 12 and 23 are amended.

The Examiner makes several rejections in the application. The Examiner uses patents to Bodkins, Yotsutsuji, Hendry and Kataoka as the primary references, each disclosing a coating in a mold cavity. The Examiner recognizes that none of these patents discloses a mold having a passage with a coating that increases heat insulation or decreases flow resistance. For that reason, the Examiner combines each primary reference with the teachings of Ouellette and Wright to cure this deficiency. Reconsideration of these rejections, in view of amendments to the claims and the following remarks, is respectfully requested.

The Examiner relies upon Ouellette and Wright for the teaching of a passage within a mold having a coating. The Examiner states that Ouellette discloses a manifold of polymer bars 116, 118 having low thermal conductivity to prevent premature curing and that, in an alternative to polymer bars, a laminate of one or more polymeric materials may be used. Ouellette actually states that the laminate is of two or more materials. The polymer bars form the surfaces of the molding cavity and do not form a passage in the mold leading to the molding cavity. Ouellette does not disclose the use of a coating in the inlet sprue 130.

In discussing Wright, the Examiner states that "the gate 26 is thermally insulated from the nozzle via an insert 30" and that "Wright et al. thus teaches the criticality of the resin temperature and its correlation to adequate or successful injection molding." While it may be true that Wright discloses the criticality of resin temperature to injection molding, the structure disclosed by Wright is not related to a coating in a passage. The insert 30 is at the end of the nozzle and spaces the nozzle from the mold 16 to prevent heat transfer (col. 3, lines 48-51) and the insert insulates the gate 26 from the relatively high temperatures of the nozzle, as stated in col. 4, lines 10-12), thus keeping the temperature of the gate lower than it would be without the insert. The increased temperature of the gate without an insert would actually prevent premature cooling.

This disclosure is in contrast to a coating on a passage to prevent heat loss of the material flowing through the passage.

In response to earlier arguments, the Examiner has responded that one of ordinary skill in the art of injection molding fully understands the importance of ensuring that premature cooling is prevented such that the entire mold cavity is completely filled with molten resin and thus, would insulate not only the mold cavity [but] the passage, as taught by Wright et al. for the purpose of preventing such premature cooling. Wright and Ouellette may disclose the need to prevent premature cooling of resin, but neither discloses the use of a coating on a passage leading to the mold cavity in a manner in which to prevent such cooling. Although many references discuss the need to prevent premature cooling, none of the prior art references relied upon the Examiner disclose the use of such a coating in the passage, relying instead of other structure to address this problem. This is true even of references such as Hendry, which discloses a coating in the mold cavity but not the sprue bore.

Applicants respectfully submit that the combinations of elements as set forth in independent claims 1, 8, 10, 12 and 23 are not disclosed or made obvious by the prior art of record, including Wright and Ouellette, for the reasons explained above. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

With regard to dependent claims 2-7, 9-11, 13-15, 17-22 and 24-26, Applicants submit that claims 2-7, 9-11, 13-15, 17-22 and 24-26 depend, either directly or indirectly, from independent claims 1, 8, 10, 12 and 23 which are allowable for the reasons set forth above, and therefore claims 2-7, 9-11, 13-15, 17-22 and 24-26 are allowable based on their dependence from claims 1, 8, 10, 12 and 23. Reconsideration and allowance thereof are respectfully requested.

Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone Chris McDonald, Registration No. 41,533, at (703) 205-8000, in the Washington, D.C. area.

Prompt and favorable consideration of this Amendment is respectfully requested.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully Submitted,

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